

# MISSOURI PUBLIC SERVICE COMMISSION

## STAFF STATUS REPORT



## CITY UTILITIES OF SPRINGFIELD

**CASE NO. GS-2004-0257**

*Industry Analysis Division  
Safety Engineering Department*

*April 18, 2024 - Jefferson City, Missouri*

**\*\* Denotes Confidential Information \*\***

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CITY UTILITIES OF SPRINGFIELD  
CASE NO. GS-2004-0257**

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**STAFF STATUS REPORT**  
**CITY UTILITIES OF SPRINGFIELD**  
**CASE NO. GS-2004-0257**

**BACKGROUND:**

This is Staff's ninth status report concerning the schedule and recommendations in the Joint Recommendation Concerning Pipeline Replacement Schedule ("Joint Recommendation") filed on May 18, 2010, and approved by the Commission on May 28, 2010. This status report discusses Staff's on-going investigation into plastic pipe leaks caused by rock impingement and City Utilities of Springfield's ("City Utilities") DuPont Aldyl® "A" polyethylene piping replacement program.

In 2016, City Utilities proposed to change the reporting period from a calendar year basis to an October through September annual reporting basis corresponding with City Utilities' fiscal year to allow for more efficient scheduling of replacement projects. The Commission granted this change in the reporting period on May 31, 2016.

Staff's most recent previous status report filed on March 31, 2022, provided the status of City Utilities' plastic pipe monitoring, evaluation and replacement program through September 30, 2021. Staff's March 31, 2022 status report stated that:

- City Utilities has continued to implement each of the Commission ordered recommendations.
- As City Utilities draws near to completion replacement of its remaining pre-1985 "high-pressure" DuPont Aldyl® "A" polyethylene pipelines (Recommendation 1), Staff and City Utilities continue to discuss how best to approach implementation of the remaining recommendations relating to City Utilities' DuPont Aldyl® "A" polyethylene pipelines that are of newer vintage (1985 and newer) and that are operating at lower pressures (all vintages).

On March 18, 2024, the Commission ordered Staff to file a Status Report no later than April 18, 2024. This Status Report is submitted as a response to the Commission's order, and provides a summary of City Utilities' progress from October 1, 2021 through September 30, 2023.

**STATUS REPORT:**

## Summary of Results

During the period of October 1, 2021 through September 30, 2023, City Utilities discovered and eliminated rock impingement leaks on its DuPont Aldyl® “A” polyethylene piping as follows:

✿✿

The diagram consists of a grid with black and white cells. A large black bar is at the top. Below it, a grid of cells is shown, with some cells being black and others white. The grid is divided into sections by black bars. The first section is labeled '1' and the second section is labeled '2'. The grid is composed of 10 columns and 10 rows. The black cells are located at the following positions (row, column): (1, 1), (1, 2), (1, 3), (1, 4), (1, 5), (1, 6), (1, 7), (1, 8), (1, 9), (1, 10), (2, 1), (2, 2), (2, 3), (2, 4), (2, 5), (2, 6), (2, 7), (2, 8), (2, 9), (2, 10), (3, 1), (3, 2), (3, 3), (3, 4), (3, 5), (3, 6), (3, 7), (3, 8), (3, 9), (3, 10), (4, 1), (4, 2), (4, 3), (4, 4), (4, 5), (4, 6), (4, 7), (4, 8), (4, 9), (4, 10), (5, 1), (5, 2), (5, 3), (5, 4), (5, 5), (5, 6), (5, 7), (5, 8), (5, 9), (5, 10), (6, 1), (6, 2), (6, 3), (6, 4), (6, 5), (6, 6), (6, 7), (6, 8), (6, 9), (6, 10), (7, 1), (7, 2), (7, 3), (7, 4), (7, 5), (7, 6), (7, 7), (7, 8), (7, 9), (7, 10), (8, 1), (8, 2), (8, 3), (8, 4), (8, 5), (8, 6), (8, 7), (8, 8), (8, 9), (8, 10), (9, 1), (9, 2), (9, 3), (9, 4), (9, 5), (9, 6), (9, 7), (9, 8), (9, 9), (9, 10), (10, 1), (10, 2), (10, 3), (10, 4), (10, 5), (10, 6), (10, 7), (10, 8), (10, 9), (10, 10).

✿ ✿

1 \*\*

<sup>2</sup> The abbreviation “psig” means Pounds Per Square Inch Gauge.

Overall for the period of October 1, 2021 through September 30, 2023:

\*\*

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] \*\*

### Recommendations - Replacement Criteria for Calendar Year 2010 and Beyond:

**Recommendation 1:** City Utilities shall replace the remaining pre-1985 “high-pressure” DuPont Aldyl® “A” polyethylene piping (services lines 1¼ inches in diameter and larger and mains) at a rate of at least 6 miles annually<sup>3</sup>.

***Status:*** City Utilities provided the following information to Staff for the period between October 1, 2021 through September 30, 2023:

\*\*

[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED] <sup>4</sup>	[REDACTED]	[REDACTED]

<sup>3</sup> The Commission Order Adopting Joint Recommendation and Ordering Compliance with Pipeline Replacement Schedule filed on May 28, 2010, Recommendation #5 of the REPLACEMENT PROGRAM CRITERIA FOR 2010 AND BEYOND requires that “Replacements of “high-pressure” DuPont Aldyl® “A” piping installed in 1985 and after, and other lower pressure categories of DuPont Aldyl® “A” piping is considered as a lower priority for replacement, but can be included in the total annual mileage if the segments have experienced leaks, are in a rock-dirt backfill, or if the piping is connected to a higher priority segment that is being replaced.”

<sup>4</sup> The Commission Order Adopting Joint Recommendation and Ordering Compliance with Pipeline Replacement Schedule filed on May 28, 2010, recommendation #3 of the REPLACEMENT PROGRAM CRITERIA FOR 2010 AND BEYOND requires that “City Utilities shall continue its practice of replacing the service lines associated with the main replacements.” City Utilities tracks the number of service lines replaced that includes both Dupont Aldyl®-“A” and non Dupont Aldyl®-“A” plastic piping. The service lines are replaced by City Utilities from the main to meter at the same time with the Dupont Aldyl®-“A” polyethylene main segments. The replacement mileage amounts for the ¾” plastic services does not count towards the total replacement mileage, however the mileage for the 1-1/4” and larger diameter Dupont Aldyl®-“A” services are included.

## Staff Status Report


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**Recommendation 2:** City Utilities shall continue its practice of replacing nearby or adjacent pipe segments that are beyond the specific piping in the same work order number because the piping was installed in the same time period and could likely have been installed using the same methods and in the same environment.

**Status:** \*\*

\*\*

**Recommendation 3:** City Utilities shall continue its practice of replacing the service lines associated with the main replacements.

**Status:** \*\*

\*\*

<sup>5</sup> City Utilities' response to Staff Recommendation 11 stated that \*\*

\*\*

[REDACTED]

[REDACTED] \*\*

**Recommendation 4:** The replacements shall be prioritized based on risk factors, such as Maximum Allowable Operating Pressure (MAOP), installation in rock-dirt backfill, installation date, history of leaks due to rock impingement, continuous pavement areas, areas of high population density, areas of previous leakage, and other appropriate criteria.

***Status:*** \*\* [REDACTED]

[REDACTED]

[REDACTED] \*\*

**Recommendation 5:** The primary focus of the replacement program shall be on “high-pressure” DuPont Aldyl® “A” piping that was manufactured before 1985 (pre-1985) that was installed in a rock-dirt backfill. Replacements of “high-pressure” DuPont Aldyl® “A” piping installed in 1985 and after, and other lower pressure categories of DuPont Aldyl® “A” piping would normally be a low priority, but can be included in the total annual mileage if the segments have experienced leaks, are in a rock-dirt backfill, or if the piping is connected to a higher priority segment that is being replaced.

***Status:*** \*\* [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



- Recommendation 6:** If, at any time during the review of its Distribution Integrity Management Program (DIMP), City Utilities discovers more essential and higher priority areas on which it must concentrate its replacement efforts, such as rock impingement leaks on lower pressure PE piping and PE piping installed after 1984, City Utilities will bring these issues to Staff's attention and notify the Commission.

\*\*\*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7

\*\*

<sup>6</sup> Case No. GS-2024-0024.

<sup>7</sup> Staff Data Request No. 0015.7 in Case No. GS-2024-0024.

*Following receipt of City Utilities' revised DIMP plan<sup>8</sup>, Staff will perform a DIMP inspection to evaluate compliance with Commission rules for Gas Distribution Integrity Management<sup>9</sup> and Commission Orders in this case. \*\** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] \*\*

### **Recommendations – Non-Replacement Criteria for Calendar Year 2010 and Beyond:**

In addition to the above replacement program, City Utilities will continue to meet the following requirements of the original agreement:

**Recommendation 7:** An annual leakage survey shall be conducted over pre-1985, 60 psig plastic piping. In addition, an annual leakage survey shall be conducted over post-1985<sup>10</sup> and/or low and medium<sup>11</sup> pressure main segments that have exhibited splits or are confirmed to be in rock-dirt mix backfill.

***Status:*** *City Utilities provided the following leakage survey information for the period of January 1, 2022 through December 31, 2023:*

\*\*

[REDACTED]

\*\*

***Status:*** \*\*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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<sup>8</sup> Each operator is required by 20 CSR 4240-40.030(1)(J) to submit to designated commission personnel all plans and procedures, including distribution integrity management plan. Each change must be submitted to designated commission personnel within 20 days after the change is made.

<sup>9</sup> Commission rules for Gas Distribution Pipeline Integrity Management are in 20 CSR 4240-40.030(17).

<sup>10</sup> \*\* [REDACTED] \*\*

<sup>11</sup> \*\* [REDACTED] \*\*

[REDACTED]

[REDACTED] 12 [REDACTED]

[REDACTED]

[REDACTED] \*\*

**Recommendation 8:** Quarterly leak surveys shall be conducted of the downtown business district.

***Status:*** *City Utilities provided Staff with the following quarterly leak survey results of the downtown business district during the months of January, April, July, and October of each year:*

\*\*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] \*\*

**Recommendation 9:** Any plastic piping that is exposed will be inspected for proper backfill, and if rock-dirt mix backfill is found, the main segments and larger diameter service lines (1¼-inch diameter and larger) shall be added to the Master List for annual leak surveys and systematic replacement.

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<sup>12</sup> 20 CSR 4240-40.030(13)(M)2.A. requires among other things that an instrument leak detection survey must be conducted in business districts, at intervals not exceeding fifteen (15) months but at least once each calendar year.

\*\*

[REDACTED] \*\*

**Status:** *City Utilities provided the following inspection findings for the period between October 1, 2021 through September 30, 2023:*


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**Recommendation 10:** Semi-annual reports and monthly updates shall be submitted to Staff.

**Status:** Staff has received City Utilities' semi-annual report for the period of October 1, 2021 through March 31, 2022, but has not received City Utilities' semi-annual reports for the periods of April 1, 2022 through September 30, 2022; October 1, 2022 through March 31, 2023, April 1, 2023 through September 30, 2023, and October 1, 2023 through March 31, 2024. Staff has received all of the City's monthly updates for calendar years 2021, 2022, and 2023 but has not received the City's monthly updates for January 2024, February 2024, or March 2024.

City Utilities has stated to Staff that the delay in completing semi-annual reports has been due to \*\*  \*\*. \*\*

For the three semi-annual reports:

- April 1, 2022 through September 30, 2022,
- October 1, 2022 through March 31, 2023, and
- April 1, 2023 through September 30, 2023.

City Utilities has proposed and Staff agrees that combining the information from these three (3) delinquent semi-annual reports for the period between April 1, 2022 and September 30, 2023 into one report would be the most efficient way to provide the detailed information to Staff.

**Recommendation 11:** The mileage of pre-1985, 60 psig mains that remain in the distribution system shall be provided to Staff.

***Status:*** \*\*

[REDACTED]

**Recommendation 12:** Staff and City Utilities shall continue to monitor the effectiveness of the Replacement Program. If at any time Staff determines that the program requirements should be enhanced, it will immediately bring its concerns and recommendations to the Commission.

***Status:*** \*\*

[REDACTED]

**SUMMARY:**

City Utilities has provided its' monthly updates to Staff for calendar years 2021, 2022, and 2023 but Staff has not received the City's monthly updates for January 2024, February 2024, and March 2024 of this year. Additionally, Staff has not received City Utilities' semi-annual reports for the periods of April 1, 2022 through September 30, 2022; October 1, 2022 through March 31, 2023, April 1, 2023 through September 30, 2023, and October 1, 2023 through March 31, 2024.

City Utilities has proposed and Staff agrees that combining the information from the three delinquent semi-annual reports for the period between April 1, 2022 and September 30, 2023 into one report would be the most efficient way to provide the detailed information for this time period.

As part of this ninth Status Report, Staff respectfully requests that the Commission order City Utilities of Springfield to provide a combined semi-annual report to Staff for the periods: a) April 1, 2022 through September 30, 2022, b) October 1, 2022 through March 31, 2023, and c) April 1, 2023 through September 30, 2023, and monthly reports for January, February and March of 2024 by May 17, 2024.

Staff will review the data in the combined semi-annual report for consistency with the summary results provided by City Utilities for this Status Report. If Staff notes any inconsistencies, it will file an amended Status Report at that time.

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

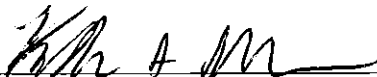
In the Matter of an Investigation into City	)	
Utilities of Springfield Plastic Pipe Failures	)	<u>Case No. GS-2004-0257</u>
and the Adequacy of its Leak Survey	)	
Procedures, Installation Procedures and	)	
Replacement Criteria	)	

**AFFIDAVIT OF KATHLEEN A. McNELIS, PE**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

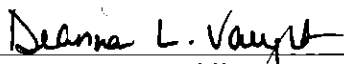
**COMES NOW** Kathleen A. McNelis, PE, and on her oath states that she is of sound mind and lawful age; that she contributed to the foregoing *Status Report*; and that the same is true and correct according to her best knowledge and belief.

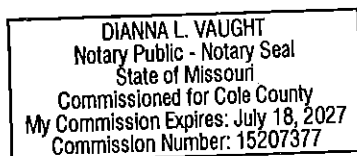
Further the Affiant sayeth not.

  
\_\_\_\_\_  
Kathleen A. McNelis, PE

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Jefferson City, on this 17<sup>th</sup> day of April 2024.

  
\_\_\_\_\_  
Notary Public



**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

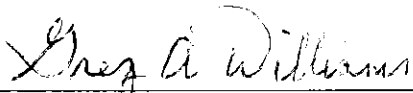
In the Matter of an Investigation into City	)	
Utilities of Springfield Plastic Pipe Failures	)	<u>Case No. GS-2004-0257</u>
and the Adequacy of its Leak Survey	)	
Procedures, Installation Procedures and	)	
Replacement Criteria	)	

**AFFIDAVIT OF GREG A. WILLIAMS**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

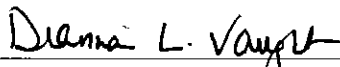
**COMES NOW** Greg A. Williams, and on his oath states that he is of sound mind and lawful age; that he contributed to the foregoing *Status Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

  
\_\_\_\_\_  
Greg A. Williams

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Jefferson City, on this 17<sup>th</sup> day of April 2024.

  
\_\_\_\_\_  
Notary Public

